

WHAT IS CLAIMED IS:

- 1 1. A method for inhibiting an RNAi response in a cell, the method
2 comprising the step of contacting the cell with a dsRNA involved in the RNAi response,
3 thereby inhibiting an RNAi response in a cell.
- 1 2. The method of claim 1, wherein the dsRNA is a dcr-1 dsRNA.
- 1 3. The method of claim 1, wherein the dsRNA is a rde-1 dsRNA, an
2 smg-5 dsRNA, an ego-1 ds RNA, or a rde-4 ds RNA.
- 1 4. The method of claim 1, wherein inhibiting the RNAi response in a
2 cell modulates an age-associated parameter.
- 1 5. The method of claim 1, wherein inhibiting the RNAi response
2 modulates the expression of a lifespan associated gene selected from the group consisting
3 of a cellular stress-response gene, an antimicrobial gene, a metabolic gene, a steroid or
4 lipid-soluble hormone synthesis gene, a fatty acid desaturation gene or a homolog or
5 ortholog thereof.
- 1 6. The method of claim 1, wherein inhibiting the RNAi response
2 modulates the expression of a lifespan associated gene selected from the group consisting
3 of cytochrome P450, an estradiol-17- β -dehydrogenase, a alcohol/short-chain
4 dehydrogenase, an esterase, a UDP-glucuronosyltransferase, an aminopeptidase, a
5 carboxypeptidase, an amino-oxidase, an aminoacylase, an oligopeptide transporter,
6 metallothionein, a receptor guanylate cyclase, a mitochondrial superoxide dismutase, a
7 catalase, lysosyme, saposin, vitellogenin, glutathione-S-transferase, heat-shock protein,
8 heat shock factor, an F-box/cullin/Skp protein, an isocitrate lyase, a malate synthase
9 ASMTL, insulin, IFG1 or IFG2 or a homolog or ortholog thereof.
- 1 7. The method of claim 2, wherein the dcr-1 is human dcr-1.
- 1 8. The method of claim 2, wherein the dcr-1 is *C. elegans* dcr-1.
- 1 9. The method of claim 4, wherein the age-associated parameter is
2 lifespan.

- 1 10. The method of claim 4, wherein the modulation is inhibition of
2 aging.
- 1 11. The method of claim 5, wherein the homolog or ortholog is a
2 human homolog or ortholog.
- 1 12. The method of claim 6, wherein the homolog or ortholog is a
2 human homolog or ortholog.
- 1 13. A method for inhibiting an RNAi response in a subject, the method
2 comprising the step of administering a dsRNA involved in the RNAi response to the
3 subject, thereby inhibiting an RNAi response in a cell.
- 1 14. The method of claim 13, wherein the dsRNA is a dcr-1 dsRNA.
- 1 15. The method of claim 13, wherein inhibiting the RNAi response in a
2 cell modulates an age-associated parameter.
- 1 16. The method of claim 13, wherein inhibiting the RNAi response
2 modulates the expression of a lifespan associated gene selected from the group consisting
3 of a cellular stress-response gene, an antimicrobial gene, a metabolic gene, a steroid or
4 lipid-soluble hormone synthesis gene, a fatty acid desaturation gene, or a homolog or
5 ortholog thereof.
- 1 17. The method of claim 13, wherein inhibiting the RNAi response
2 modulates the expression of a lifespan associated gene selected from the group consisting
3 of a cytochrome P450, an estradiol-17- β -dehydrogenase, a alcohol/short-chain
4 dehydrogenase, an esterase, a UDP-glucuronosyltransferase, an aminopeptidase, a
5 carboxypeptidase, an amino-oxidase, an aminoacylase, an oligopeptide transporter,
6 metallothionein, a receptor guanylate cyclase, a mitochondrial superoxide dismutase, a
7 catalase, lysosyme, saposin, vitellogenin, glutathione-S-transferase, heat-shock protein,
8 heat shock factor, an F-box/cullin/Skp protein, an isocitrate lyase, a malate synthase
9 ASMTL, insulin, IFG1, IFG2 or a homolog or ortholog thereof.
- 1 18. The method of claim 13, wherein the subject is mammal.
- 1 19. The method of claim 14, wherein the dcr-1 is human dcr-1.

- 1 20. The method of claim 14, wherein the dcr-1 is *C. elegans* dcr-1.
- 1 21. The method of claim 15, wherein the age-associated parameter is
2 lifespan.
- 1 22. The method of claim 15, wherein the modulation is inhibition of
2 aging.
- 1 23. The method of claim 16, wherein the homolog or ortholog is a
2 human homolog or ortholog.
- 1 24. The method of claim 17, wherein the homolog or ortholog is a
2 human homolog or ortholog.
- 1 25. The method of claim 18, wherein the mammal is an adult.
- 1 26. The method of claim 18, wherein the mammal is a non-diabetic,
2 non-obese adult.
- 1 27. The method of claim 18, wherein the mammal is not at risk for or
2 does not have a premature aging disorder.
- 1 28. The method of claim 25, wherein the mammal is a healthy adult.
- 1 29. A method of increasing lifespan or treating premature aging in a
2 subject, the method comprising the step of administering a dsRNA involved in the RNAi
3 response to the subject, thereby inhibiting an RNAi response in a cell.
- 1 30. The method of claim 29, wherein the dsRNA is a dcr-1 dsRNA.
- 1 31. The method of claim 29, wherein inhibiting the RNAi response
2 modulates the expression of a cellular stress-response gene, an antimicrobial gene, a
3 metabolic gene, a steroid or lipid-soluble hormone synthesis gene, a fatty acid
4 desaturation gene, or a homolog or ortholog thereof.
- 1 32. The method of claim 29, wherein inhibiting the RNAi response
2 modulates the expression of a cytochrome P450, an estradiol-17- β -dehydrogenase, a
3 alcohol/short-chain dehydrogenase, an esterase, a UDP-glucuronosyltransferase, an

4 aminopeptidase, a carboxypeptidase, an amino-oxidase, an aminoacylase, an oligopeptide
5 transporter, metallothionein, a receptor guanylate cyclase, a mitochondrial superoxide
6 dismutase, a catalase, lysosyme, saposin, vitellogenin, glutathione-S-transferase, heat-
7 shock protein, heat shock factor, an F-box/cullin/Skp protein, an isocitrate lyase, a malate
8 synthase ASMTL, insulin, IFG1, IFG2 or a homolog or ortholog thereof.

1 33. The method of claim 29, wherein the subject is mammal.

1 34. The method of claim 29, wherein the subject has an abnormal
2 aging disorder.

1 35. The method of claim 30, wherein the dcr-1 is human dcr-1.

1 36. The method of claim 30, wherein the dcr-1 is *C. elegans* dcr-1.

1 37. The method of claim 31, wherein the homolog or ortholog is a
2 human homolog or ortholog.

1 38. The method of claim 32, wherein the homolog or ortholog is a
2 human homolog or ortholog.

1 39. The method of claim 33, wherein the mammal is an adult.

1 40. The method of claim 33, wherein the mammal is a non-diabetic,
2 non-obese adult.

1 41. The method of claim 33, wherein the mammal is not at risk for or
2 does not have a premature aging disorder.

1 42. The method of claim 40, wherein the mammal is a healthy adult.

1 43. The method of claim 34, wherein the abnormal aging disorder is
2 selected from Werner syndrome, Hutchinson-Guilford disease, Bloom's syndrome,
3 Cockayne's syndrome, ataxia telangiectasia, and Down's syndrome.

1 44. A method of altering lifespan regulation in a subject, the method
2 comprising the step of contacting the organism with a dsRNA involved in the RNAi
3 response, thereby inhibiting an RNAi response in a cell.

1 45. The method of claim 44, wherein inhibiting the RNAi response
2 inhibits aging.

1 46. The method of claim 44, wherein the dsRNA is a dcr-1 dsRNA.

1 47. The method of claim 44, wherein inhibiting the RNAi response
2 modulates the expression of a cellular stress-response gene, an antimicrobial gene, a
3 metabolic gene, a steroid or lipid-soluble hormone synthesis gene, a fatty acid
4 desaturation gene, or a homolog or ortholog thereof.

1 48. The method of claim 44, wherein inhibiting the RNAi response
2 modulates the expression of a cytochrome P450, an estradiol-17- β -dehydrogenase, a
3 alcohol/short-chain dehydrogenase, an esterase, a UDP-glucuronosyltransferase, an
4 aminopeptidase, a carboxypeptidase, an amino-oxidase, an aminoacylase, an oligopeptide
5 transporter, metallothionein, a receptor guanylate cyclase, a mitochondrial superoxide
6 dismutase, a catalase, lysosyme, saposin, vitellogenin, glutathione-S-transferase, heat-
7 shock protein, heat shock factor, an F-box/cullin/Skp protein, an isocitrate lyase, a malate
8 synthase ASMTL, insulin, IFG1, IFG2 or a homolog or ortholog thereof.

1 49. The method of claim 44, wherein the subject is mammal.

1 50. The method of claim 46, wherein the dcr-1 is human dcr-1.

1 51. The method of claim 46, wherein the dcr-1 is *C. elegans* dcr-1.

1 52. The method of claim 47, wherein the homolog or ortholog is a
2 human homolog or ortholog.

1 53. The method of claim 48, wherein the homolog or ortholog is a
2 human homolog or ortholog.

1 54. The method of claim 49, wherein the mammal is an adult.

1 55. The method of claim 49, wherein the mammal is a non-diabetic,
2 non-obese adult.

1 56. The method of claim 49, wherein the mammal is not at risk for or
2 does not have a premature aging disorder.

1 57. The method of claim 54, wherein the mammal is a healthy adult.